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PSYCHOLOGICAL LITERATURE.

Examen psychologique des animaux. Nouvelle méthode expérimentale de classification des espèces au point de vue psychologique. Par PIERRE HACHET-SOUPLET. Paris, Schleicher Frères, 1900. pp. xvi-162.

The author of this interesting book points out that comparative psychologists have missed the most natural and fruitful method of studying animal minds, in that they have failed to appropriate and use systematically for scientific ends, the procedure employed by professional trainers for practical ends. The book in question presents the results of a limited application of this method; but for completeness and certainty, such work needs to be done in connection with great zoölogical gardens. M. Hachet-Souplet announces an understanding with the authorities of the *Jardin d'accultimation*, which makes the realization of his project of a great zoölogical laboratory, where such systematic study may be carried on unlimitedly, only a matter of time. Certainly much is to be hoped for from the adoption and application by psychologists of the methods of testing animal intelligence in this large and free, and at the same time, strictly experimental way. Suggestions of a like tenor, but much less comprehensive, have been made by Professor Lloyd Morgan; of which, however, M. Hachet-Souplet appears to be ignorant.

Inasmuch as the minds of animals vary independently of morphological characters, the author demands a new classification of species based strictly upon psychological characters. This demands study of animal minds on their own account, absolutely free from morphological leading strings. It will be time enough to reconcile the morphological and the psychological classifications after each separately has been made out with some degree of completeness. The psychological criteria are: what does the animal do under given conditions, and what influences does he respond to. Upon the basis of his somewhat wide and varied employment of the *méthode de dressage*, the author proposes a tentative scheme of classification embracing types of most of the morphological categories. This scheme consists of three categories: animals whose sole psychic attribute is excitability; those subject to coercion; those subject to persuasion. The first category is self-explanatory, and includes only the protozoans. The second category contains those animals possessing primitive instincts—nutrition, reproduction, and conservation (*défense*)—and functional memory, *i. e.*, memory connected always with some bodily function. The animal perceives, in the external world, the conditions of satisfying the primary instincts; but this consciousness is strictly connected with the return of functional need, and leaves no independent image in the nervous organism. There are two sub-categories based upon the relative complexity of the functional memory. This category includes animals as widely variant as Medusa and deer. Training is by *coexcitation*, *i. e.*, by modifications of external conditions or fear—whereby the *surs instincts* are readapted.

The third category contains all the higher animals. They possess intelligence: *i. e.*, their brains are capable of preserving impressions of perceptions independent of immediate functional needs. Such an

animal is like a closed vase in which ideas develop, jostle each other, and combine. The result of the jostlings and combinations is a *determination*, in the sense of the domination in consciousness of one or other of the ideas. In animals, as in man, this gives the illusion of choice and free intelligence. Animals in this category are capable of being persuaded, *i. e.*, of conceiving cause and effect as man conceives them. They understand when man seeks to show them by "*une mimique expressive*," the relation of cause and effect. Such mentality M. Hachet-Souplet thinks he has demonstrated in some of the higher animals. There are three sub-categories, dependent upon the degree to which the animals are subject to persuasion; and upon the presence of secondary (acquired) instincts. He is a warm partisan of the "lapsed intelligence" theory, and thinks the thesis easily demonstrable by his method of investigation. This category includes types as remote as the ant and the chimpanzee. To the higher animals are attributed imagination, abstraction, aesthetic sense, personality and other high mental powers. These attributions, however, are made guardedly and on the basis of experiment; not at all in the loose manner of Romanes, whom M. Hachet-Souplet constantly criticises.

The obvious strictures upon the book are: the somewhat superficial character of some of the psychological analysis; the ignorance or disregard for some important recent work in animal psychology—there is no mention of Morgan, Thorndike, Bethe, Wasman, Peckham *et al.*; and the fact that his zeal for the evolutionary philosophy (Spencer's) occasionally carries him, in his interpretations, beyond his facts.

Nevertheless, this book is a valuable and interesting contribution to positive comparative psychology—and, withal, brilliantly written.

W. S. SMALL.

Psychology, Empirical and Rational. (Stonyhurst Philosophical Series, No. 5.) By MICHAEL MAHER, S. J. Fourth edn., revised and enlarged. London, New York and Bombay. Longmans, Green & Co., 1900. pp. xxii, 602, xii. Price, 6/6.

In this new edition, the modifications up to ch. ix are slight, except that more space is devoted to physiology and psychophysics. Chs. xiv (origin of intellectual ideas), xvi to xix (attention and apperception; development of intellectual cognition; rational appetency; free will and determinism), xxii (false theories of the ego) and xxiv (immortality of the soul) are almost wholly new; the supplement on hypnotism, and the criticisms of the theories of James and Höffding, appear for the first time. The historical sketches have throughout been substantially increased.

For the rest, the plan and scope of the work remain as before. Thomas Aquinas is the constant standard of reference; and, while the author does good service in calling the attention of scientific psychologists to authors with whom they are but little, if at all familiar, he has himself no adequate knowledge or appreciation of the course of scientific psychology.

E. B. T.

From India to the Planet Mars: a Study of a Case of Somnambulism, with Glossolalia. By TH. FLOURNOV, Professor of Psychology at the University of Geneva. Translated by D. B. Vermilye, New York and London; Harper Bros., 1900. pp. xx, 447. Price, \$1.50.

The original of this translation was reviewed in the *American Journal of Psychology* for April, 1900 (Vol. XI, pp. 428 ff.). As, however, the book is attracting much attention, both from psychologists and from the general public, and as its contents will strike different readers very differently, I take the opportunity afforded by the appearance of